
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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NICKEL IN NOVEMBER 1996

Reported domestic nickel consumption in November, on a daily average basis, was 14% less than that of October, according to the U.S. Geological Survey. Daily usage by the stainless steel industry was down 18% from the revised October figure of 121 metric tons (t). Consumption of elemental nickel to make nickel-base corrosion resistant alloys also decreased, dropping 23% to 36 t per day. However, demand for elemental nickel by the brass industry was up significantly. Sales to plating companies averaged 39 t per day, slightly less than in October. Percentages reported in this paragraph may not be verifiable owing to the concealment of company proprietary data. Trade data for November will appear in a subsequent issue.

BHP and Aneka Tambang form joint Indonesian venture

On August 7, 1996, BHP Minerals Ltd. of Australia and P. T. Aneka Tambang of Indonesia formed a joint venture to evaluate lateritic nickel prospects on Gag Island, Irian Jaya.¹ Gag Island is about 130 kilometers southeast of Halmahera, Maluku, and 150 kilometers northwest of Sorong at the northwestern tip of Irian Jaya. (See map on page 2.) The nickel prospects on Gag Island have been known for some time and are currently held by Aneka Tambang. Aneka Tambang is a state-

owned mining enterprise with a wide range of mineral interests including bauxite, gold, silver, and iron sand. The joint venture is hoping that advanced recovery technologies developed by BHP will make the Gag project economically feasible.

Gag Island is only 40 kilometers southeast of Gebe Island, Maluku, where Aneka Tambang has one of its two principal nickel mines. The other mine is near the company's ferronickel smelter at Pomalaa in southeastern Sulawesi. The Gebe Island Mine has been in operation since April 1979 and is currently shipping ore to Pomalaa, QNI Ltd.'s Yabulu Refinery in Queensland, Australia, and Japanese ferronickel producers. The open pit mine has 27 million t of reserves averaging 2.2% Ni.

BHP has a 75% interest in the Gag Island venture and has already submitted a Contract of Work to the Indonesian Government. The initial feasibility study should be completed by January 1999. The Government of Indonesia is considering partially privatizing Aneka Tambang. A portion of the funds from the stock flotation would be used to expand the Pomalaa smelter.

¹BHP Minerals Global Report (Melbourne, Australia). Nickel JV in Indonesia. September 1, 1996, p. 1.

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
1995:					
November	6,040	1,690	630	8,360	96,500
December	6,250	1,860	244	8,360	105,000
January-December	82,600	17,300	4,950	105,000	XX
1996:					
January	6,930	1,500	309	8,740	8,740
February	7,010	1,230	268	8,510	17,200
March	6,760	1,480	318	8,560	25,800
April	6,620	1,490	249	8,360	34,200
May	7,060	1,470	285	8,820	43,000
June	6,710	1,530	236	8,470	51,400
July	6,480	1,160	130	7,770	59,200
August	6,290	1,450	141	7,880	67,100
September	6,030	1,540	178	7,750	74,800
October	6,670	1,750	320	8,740	83,600
November:					
Steel:					
Stainless and heat resisting	1,670	1,270	W	2,930	34,900
Alloy (excludes stainless)	319	W	W	319	6,340
Superalloys	836	--	W	836	11,500
Copper-nickel alloys	W	W	--	W	W
Electrical, magnetic, and expansion alloys	W	--	--	W	W
Other nickel & nickel alloys	1,070	--	W	1,070	15,800
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	1,180	--	--	1,180	13,200
Chemical and chemical uses	W	--	W	W	W
Other uses	547	69	365	981	9,120
Total reported	5,610	2/ 1,340	365	7,320	90,900
Total all companies (calc) 3/	XX	XX	XX	10,600	132,000
1996: January-November	72,200	15,900	2,800	90,900	XX
1995: January-November	76,300	15,500	4,710	96,500	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of consumption, 4,650 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (68.69%) to apparent primary consumption for 1994.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,
BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
1995:				
November	5,700	362	115	6,180
December	5,200	635	204	6,030
1996:				
January	4,690	329	106	5,120
February	5,060	292	95	5,450
March	4,610	207	69	4,890
April	4,430	131	81	4,640
May	4,060	342	92	4,500
June	3,630	337	91	4,060
July	3,440	516	70	4,030
August	3,350	429	77	3,860
September	2,880 r/	276	49	3,210 r/
October	2,740 r/	473 r/	80	3,290 r/
November:				
Steel (stainless, heat resisting and alloy)	4,200	636	(3/)	4,840
Nonferrous alloys 4/	1,830	(5/)	(3/)	1,830
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	154	--	48	202
Total	6,190	636	48	6,870

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks held by companies that consume nickel in more than one end use category are credited to the major category. Stocks are subject to revision owing to inventory adjustment.

3/ Included in "Chemicals and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

5/ Included in "Chemicals and unspecified uses" category for "Oxide-sinter, salts, and other forms."

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
1995:						
November	4,300	901	5,200	3,240	109	3,350
December	3,970	644	4,620	3,500	103	3,600
January-December	48,800	9,200	58,000	XX	XX	XX
1996:						
January	3,430	760	4,190	3,710	121	3,830
February	3,380	1,120	4,500	4,190	114	4,310
March	4,650	965	5,620	3,970	91	4,060
April	3,900	815	4,710	3,750	90	3,840
May	4,110	783	4,890	3,130	100	3,230
June	3,730	625	4,350	3,080	100	3,180
July	3,700	680	4,380	3,300	97	3,400
August	2,840 r/	1,070	3,910 r/	3,380 r/	98	3,480 r/
September	3,540 r/	1,100	4,640 r/	3,050 r/	109	3,160 r/
October	3,600 r/	762	4,360 r/	3,290 r/	105	3,400 r/
November	3,290	726	4,010	3,600	88	3,690
January-November	40,200	9,400	49,600	XX	XX	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1995:										
October	11,200	859	1,470	32	342	211	302	14,400	133,000	33
November	9,200	820	1,440	35	387	261	346	12,500	146,000	34
December	8,930	563	830	25	308	239	210	11,100	157,000	77
January-December	118,000	9,510	16,700	530	4,740	3,190	4,210	157,000	XX	2,310
1996:										
January	11,000	1,030	887	46	333	313	377	14,000	14,000	51
February	9,970	709	1,540	14	309	312	419	13,300	27,200	55
March	9,130	917	2,130	39	385	369	241	13,200	40,400	60
April	11,300	760	980	21	344	313	187	13,900	54,300	52
May	11,000	945	2,020	91	411	319	219	15,000	69,400	72
June	7,750	927	1,430	9	343	289	254	11,000	80,400	43
July	7,230	684	1,470	18	238	274	216	10,100	90,500	42
August	9,250	835	1,120	14	235	319	265	12,000	103,000	44
September	9,390	629	884	33	416	322	234	11,900	114,000	52
October:										
Australia	830	80	--	25	--	--	--	935	12,500	--
Brazil	--	--	--	--	--	--	--	--	401	--
Canada	4,320	577	--	35	171	216	69	5,380	47,500	9
Colombia	--	--	--	--	10	--	--	10	878	--
Dominican Republic	--	--	846	--	18	--	--	864	8,010	--
Finland	895	55	--	--	--	--	26	976	3,890	--
France	37	(5/)	--	--	27	--	14	78	1,820	(5/)
Germany	62	2	--	--	28	--	47	139	703	45
Japan	301	16	--	--	10	8	64	399	1,060	6
New Caledonia	--	--	200	--	--	--	--	200	3,590	--
Norway	--	--	--	--	6	--	--	6	19,300	--
Russia	890	18	--	--	162	--	4	1,070	17,600	--
South Africa	160	--	--	--	--	--	--	160	927	--
United Kingdom	355	1	--	--	96	--	22	474	1,670	4
Zimbabwe	--	--	--	--	--	--	--	--	1,380	--
Other	--	30	--	--	53	149	65	297	4,320	3
Total	7,850	779	1,050	60	581	373	311	11,000	125,000	67
1996: January-October	93,900	8,210	13,500	344	3,600	3,200	2,720	125,000	XX	538
1995: January-October	99,800	8,130	14,500	470	4,040	2,690	3,650	133,000	XX	2,200

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1995:										
October	44	239	3	297	1,830	2,410	289	5,110	43,600	51
November	38	72	235	196	1,270	2,370	117	4,300	47,900	18
December	21	74	294	471	827	1,800	164	3,650	51,500	147
January-December	1,310	1,230	807	3,500	14,200	27,600	2,920	51,500	XX	475
1996:										
January	7	69	429	262	714	1,570	158	3,210	3,210	22
February	72	53	60	78	903	1,430	305	2,900	6,110	23
March	80	92	181	271	859	1,140	261	2,880	8,990	52
April	149	63	119	134	965	2,760	389	4,570	13,600	27
May	82	171	220	331	782	1,520	519	3,620	17,200	31
June	79	142	73	616	800	1,530	295	3,530	20,700	19
July	7	50	650	480	778	2,650	364	4,980	25,700	30
August	44	97	299	348	703	2,200	424	4,120	29,800	64
September	6	80	179	359	1,210	2,230	292	4,360	34,200	27
October:										
Australia	--	1	--	--	10	--	(5/)	11	97	4
Belgium	--	5	--	--	--	(5/)	1	6	254	--
Canada	11	45	12	420	760	433	37	1,720	13,800	19
Germany	--	1	--	--	74	--	17	92	683	(5/)
India	--	--	175	--	--	11	--	186	1,310	--
Italy	--	(5/)	--	--	--	--	--	(5/)	23	--
Japan	--	2	23	(5/)	165	191	11	392	3,090	1
Korea, Republic of	--	3	--	(5/)	--	1,250	21	1,280	4,660	3
Mexico	9	6	--	(5/)	3	--	38	56	386	11
Netherlands	--	--	--	--	16	6	1	23	264	(5/)
Spain	--	(5/)	--	--	--	--	(5/)	(5/)	4,490	--
Sweden	--	1	--	--	231	6	(5/)	238	2,290	--
Taiwan	--	(5/)	29	--	--	166	7	202	4,090	1
United Kingdom	--	3	--	--	8	8	--	19	280	6
Other	--	12	120	(5/)	17	205	52	395	3,100	18
Total	20	79	359	420	1,280	2,270	185	4,620	38,800	63
1996: January-October	546	897	2,570	3,300	9,000	19,300	3,190	38,800	XX	359
1995: January-October	1,250	1,080	279	2,830	12,100	23,400	2,640	43,600	XX	310

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date 2/
1995:									
October	340	46	89	107	(3/)	93	44	717	7,900
November	179	61	169	112	(3/)	39	43	603	8,510
December	79	183	158	130	3	49	29	632	9,140
January-December	3,000	1,180	2,030	1,510	3	1,040	378	9,140	XX
1996:									
January	114	212	154	116	(3/)	98	43	738	738
February	259	152	75	92	(3/)	65	61	704	1,440
March	300	176	151	123	(3/)	107	58	916	2,360
April	561	180	158	132	(3/)	95	20	1,150	3,500
May	178	249	175	170	(3/)	67	18	858	4,360
June	221	242	116	157	(3/)	71	54	861	5,220
July	188	117	195	90	(3/)	44	107	743	5,960
August	91	219	97	187	(3/)	49	615	1,260	7,220
September	117	70	144	133	(3/)	50	59	573	7,800
October:									
Australia	139	6	--	--	--	--	--	146	944
Belgium	50	--	--	--	--	--	--	50	164
Brazil	--	--	--	--	--	--	--	--	10
Canada	2	2	3	(3/)	--	5	2	14	267
France	--	15	44	7	--	(3/)	1	67	996
Germany	--	36	30	77	(3/)	8	1	152	2,300
Italy	--	40	--	--	--	2	--	42	560
Japan	8	(3/)	2	--	--	28	(3/)	38	268
Mexico	(3/)	--	--	--	--	--	(3/)	(3/)	58
Netherlands	--	--	(3/)	--	--	16	(3/)	16	109
South Africa	20	--	--	--	--	--	--	20	623
Sweden	--	--	39	5	--	5	--	49	484
United Kingdom	29	52	1	(3/)	(3/)	6	18	106	1,310
Other	--	--	1	--	--	2	38	41	446
Total	249	151	120	90	(3/)	72	60	741	8,540
1996: January-October	2,280	1,770	1,380	1,290	2	718	1,090	8,540	XX
1995: January-October	2,740	938	1,700	1,270	1	954	306	7,900	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions for prior months.

3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total 2/	Total year to date 2/
1995:									
October	295	251	105	456	17	65	248	1,440	14,900
November	325	244	124	696	8	63	472	1,930	16,800
December	456	390	173	754	8	117	146	2,040	18,900
January-December	4,170	3,410	1,510	6,230	153	1,240	2,150	18,900	XX
1996:									
January	447	268	59	685	6	118	391	1,970	1,970
February	529	330	70	613	15	205	291	2,050	4,030
March	331	308	121	631	20	100	170	1,680	5,710
April	651	337	138	441	43	149	648	2,410	8,120
May	508	219	149	792	7	89	242	2,010	10,100
June	531	270	155	676	60	81	168	1,940	12,100
July	335	349	148	628	8	84	451	2,000	14,100
August	540	184	176	619	5	96	183	1,800	15,900
September	274	177	166	622	9	78	176	1,500	17,400
October:									
Australia	--	(3/)	(3/)	1	--	(3/)	(3/)	1	934
Belgium	7	14	--	2	--	(3/)	--	23	206
Canada	249	26	34	71	4	23	39	446	3,690
France	115	52	(3/)	1	(3/)	(3/)	30	198	2,000
Germany	6	8	3	54	(3/)	(3/)	--	71	571
India	--	--	--	--	--	(3/)	(3/)	(3/)	64
Ireland	--	--	29	(3/)	--	1	1	31	254
Italy	(3/)	7	1	150	--	2	(3/)	160	1,060
Japan	169	9	21	117	(3/)	1	10	327	2,530
Korea, Republic of	(3/)	--	1	3	--	1	4	9	256
Mexico	7	5	24	1	3	3	2	45	1,040
Netherlands	11	8	2	4	--	(3/)	(3/)	25	341
Singapore	3	19	(3/)	3	--	(3/)	7	32	157
Spain	--	(3/)	(3/)	--	--	(3/)	(3/)	1	126
Sweden	--	--	1	3	3	(3/)	1	8	117
Switzerland	--	3	1	1	--	(3/)	1	6	184
Taiwan	(3/)	--	(3/)	3	--	(3/)	9	12	187
United Kingdom	29	74	7	165	1	11	6	293	3,160
Other	6	15	23	21	1	7	284	357	2,540
Total	602	240	147	600	12	49	394	2,040	19,400
1996: January-October	4,750	2,680	1,330	6,310	186	1,050	3,110	19,400	XX
1995: January-October	3,390	2,780	1,210	4,780	137	1,060	1,530	14,900	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions for prior months.

3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
November 1996:		
Stainless and heat resisting steels	100	(1/)
Alloy steels	98	2
Superalloys	77	23
Copper-nickel alloys	98	2
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

TABLE 9
NICKEL PRICES

Date	Cathode NY Dealer \$/lb.	LME Cash \$/t	LME Cash \$/lb.	18/8 Stainless steel scrap Pittsburgh \$/long ton(gw)
1996:				
Average for month of:				
October	3.288	7,031.391	3.189	763
November	3.226	6,943.381	3.149	737
December	3.065	6,580.750	2.985	730
For week ending:				
October 4	3.26-3.40	6,974.300	3.163	750-775
October 11	3.26-3.30	6,989.500	3.170	750-775
October 18	3.33-3.36	6,992.600	3.172	750-775
October 25	3.27-3.33	7,029.000	3.188	750-775
November 1	3.33-3.38	7,192.000	3.262	725-750
November 8	3.27-3.33	7,049.000	3.197	725-750
November 15	3.31-3.34	7,074.200	3.209	725-750
November 22	3.13-3.20	6,744.000	3.059	725-750
November 29	3.18-3.25	6,873.500	3.118	725-750
December 6	3.14-3.20	6,756.600	3.065	720-740
December 13	3.08-3.17	6,645.700	3.014	720-740
December 20	3.03-3.12	6,534.700	2.964	720-740
December 27	3.02-3.09	6,438.333	2.920	720-740

Sources: Platt's Metals Week and American Metal Market.